

Proposals for a new training programme for cardiology

Joint Training and Manpower Group representing the Specialty Advisory Committee and the Cardiology Committee of the Royal College of Physicians of London, and the British Cardiac Society

1 Introduction

1.1 In recent years the rapid development of the technological aspects of cardiology means that trainees must now acquire not only clinical skills but also considerable expertise in congenital heart disease, the new more interventional cardiac (coronary) care, catheterisation with coronary angiography, arrhythmia control, complex pacemaking, cross sectional echocardiography with colour flow Doppler, nuclear cardiology, and metabolic disease—as well as knowledge of the non-invasive tests undertaken by physiological measurement technicians such as stress testing and ambulatory monitoring. They must also have an interest in epidemiology, prevention, resuscitation, and rehabilitation together with experience in clinical or laboratory research. In addition, some of those planning a career in the specialty require rigorous training in interventional cardiology—namely percutaneous transluminal coronary angioplasty and balloon dilatation of valves. Others may be expected to take an interest in newer imaging methods.

1.2 The distinction between type A and type B cardiologists has also become blurred and indeed outdated. Those who worked exclusively in cardiology used to be designated as type A, whereas type B physicians had responsibility for general medicine with a special interest in cardiology. But the distinction is no longer officially recognised. Rather, there is a range of skills from the interventionalist cardiologist in major centres to the cardiovascular physician in district hospitals who may take some responsibility for general medicine and a share in the emergency “take”. But it is now quite common for newly appointed cardiovascular physicians in district hospitals to have one or two weekly sessions at cardiac centres for the purposes of cardiac investigation including catheterisation and coronary angiography. The advantages of these shared appointments are manifold; they include improved liaison, better retention and continuing

upgrading of specialised knowledge and practical skills, continuity of patient care, the collaborative provision of facilities for some investigations and treatment (for example, permanent pacing and surgical follow up) that was previously undertaken only in cardiac centres. The benefits to the community in terms of convenience, time, and cost have been great. This tendency for joint appointments is likely to become a universal pattern, though at present geographical considerations and cost constraints sometimes have to be taken into account.

1.3 Training in cardiology has always been onerous but it has become more so as technological advances have become established. Both instruction and experience are necessary and both must be spread over several years if reasonable competence is to be attained in the relevant fields within the specialty. At the same time due regard must be paid to a broad knowledge of general medicine. The Specialist Advisory Committee (SAC) has laid down that one of the years at senior registrar grade must be spent in general medicine and another in research. This remains the policy of the SAC and it is widely supported. The corollary, however, is that the present arrangements leave only two years at senior registrar grade for specialised training in cardiology. At least five years are needed—a figure that is not disputed by those in the specialty who seek to provide the range of skills demanded of them and one that accords with European recommendations for the type of cardiology needed for United Kingdom practice. Exposure to cardiology is likely and desirable during general professional training for all physicians. This, however, cannot be relied upon because rotations vary. Moreover, such experience would not be adequate for the specialist cardiology needed in United Kingdom practice.

1.4 The requirements of the SAC for wide experience during training as a senior registrar on the one hand and the need of

D Chamberlain
D Julian
P Sleight
E Sowton

Correspondence to
Dr D Chamberlain, Royal
Sussex County Hospital,
Eastern Road, Brighton
BN2 5BE.

specialists to gain adequate experience in the range of cardiology on the other have forced a reappraisal of training recommendations in the light of College and Joint Planning and Advisory Committee (JPAC) proposals. An ad hoc training committee representing the Cardiology Committee of the Royal College of Physicians of London, the British Cardiac Society, and the SAC made new proposals for professional training. These were accepted in modified form by the full SAC. The new format has been discussed within the College and has been approved by the Joint Committee for Higher Medical Training.

2 New SAC proposals for cardiology

- 2.1 The table shows the scheme. Training in cardiology is envisaged as taking a minimum of nine years from registration rather than the seven years for some medical specialities. The additional time taken for training in specialist cardiology compared with general medicine is recognised in other countries—including now (we understand) within most of Europe.
- 2.2 The Joint Training and Manpower Group and the SAC regard as essential the ready integration of the new programme with that of general medicine already approved by JPAC. Thus we propose no change in the three years of postregistration general professional training. Trainees should usually have the MRCP (membership of Royal College of Physicians) by this time.
- 2.3 The major change occurs after that point. We envisage two blocks of three years (similar to that planned indepen-

dently by our colleagues in cardiac surgery and now approved). Provision of two posts for higher medical training allows for broader experience, flexibility, competitive interchange, and the opportunity for intervening research that we hold to be vital for the survival of academic cardiology. Although we would prefer to lose the term “registrar”, it may avoid confusion for the moment if specialty training 1 is called “registrar in cardiology” and specialty training 2 is called “senior registrar in cardiology”. Better terms will be introduced in the future.

- 2.4 Accreditation will follow after five years of specialty training which will come for some individuals after only the second year of block 2 if a year in research is recognised by the SAC. We emphasise that a year in general medicine must be an integral part of this second block to equip trainees for the type of cardiological practice that is most common within the United Kingdom. Those planning a career in interventional cardiology are likely to require an extra year of training, though that will depend on individual circumstances and is not regarded as mandatory.
- 2.5 The European proposals for the monospecialty section on cardiology (European Union of Medical Specialists) has independently set five years of specialty training as the European standard for hospital cardiologists. Thus our proposals are compatible with the plans for training in medicine as a whole, and match exactly the schemes for cardiothoracic surgery in the United Kingdom and for cardiology within Europe. Though this was fortuitous, the advan-

Proposed training programme

	Mandatory years	Optional years	Notes
Undergraduate medical training	1 1 1 1 1	1	BSc or equivalent
Qualifying degree	1		
Preregistration	1		House surgeon/physician
Postregistration general professional training (MRCP by this time)	1 1		Senior house officer Registrar
		1 (1)	Research fellow
ENROL Specialty training 1	1 1 1 } 1	↑ or ↓	Registrar
MD by this time		1 (1)	Research fellow
Specialty training 2	1 1 1 } 1		1 year general medicine Senior registrar
ACCREDITATION			
Additional training		(1)	For interventional cardiology or further GIM if necessary (safety net)

Total of nine to 12 years from registration. GIM, general internal medicine.

tages are clear; indeed any scheme in the United Kingdom that did not match that in Europe would have very serious consequences in later years.

- 2.6 The new training programme proposed by the SAC is set out in detail in the minutes of their meeting of 2 October 1989.

3 Consultant posts within England and Wales

- 3.1 There are 257 cardiologists for adults in England and Wales,¹ according to a definition accepted within the specialty. This has three requirements: (a) a special interest in cardiology; (b) appropriate training in the specialty; (c) a work pattern with at least 40% of the time devoted to cardiology.

There are in addition 33 paediatric cardiologists, though this number is widely regarded as inadequate (several vacancies have not been filled in recent years because of the shortage of suitably qualified senior registrars).

The number of cardiologists overall has grown by 30% over the past nine years (see figure).

- 3.2 Forty five health districts in England and Wales have no physician meeting the definition above,¹ though a report from the Royal College of Physicians of London and the Royal College of Surgeons of England recommended that every health district with four or more physicians should have one.² The British Cardiac Society believes that each large district (over 250 000) needs two.³
- 3.3 In addition, we lag considerably behind even conservative estimates of the need for coronary artery bypass grafting, and this has implications for angiography. Waiting lists for angioplasty are long and growing. No control is exerted on the exposure of cardiologists to the radiation needed for interventionalist cardiology. For staffing levels at major centres to be adequate to meet even the modest targets for intervention made five years ago,² and if reasonable targets for treatment and radiation exposure to physicians were met, we would need at least 60 more cardiologists within the centres.
- 3.4 While we realise that we will not achieve

an increase of approximately 100 posts in the foreseeable future (45 as in 3.2, +60 as in 3.3, disregarding the bigger districts), the need for expansion is both clear and urgent. The United Kingdom has six cardiologists per million population, Europe as a whole has 45, and the United States has 60.

- 3.5 The growth rate in consultant posts in cardiology has been approximately 3% per annum. Even 5% per annum would leave us in difficulties for a generation or more. We hope that we can achieve at least this modest figure.

4 Senior registrar posts within England and Wales

- 4.1 The Joint Planning and Advisory Committee has accepted ((SC) 89/38) a need for senior registrars in cardiology to cover an annual growth of seven posts per year with six replacement posts, plus a small allowance for an increased growth that is needed and is indeed already occurring. We therefore retain 56 senior registrars:

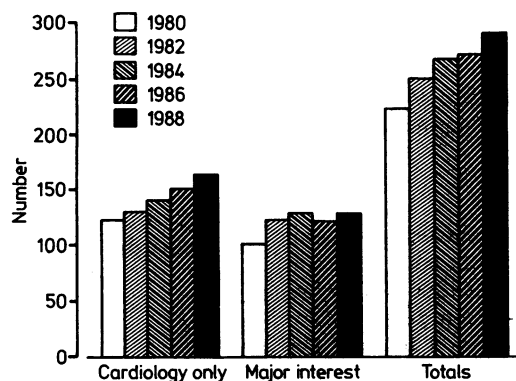
$$(7 + 6) \times 4 = 52$$

$$52 + 4 \text{ (additional allowance)} = 56$$

We hope that at least two of these 56 posts will be available for part timers (job share). Ten research posts are included.

- 4.2 We expect a larger growth rate than at present, and we believe that this will be shown in our next survey due in mid 1990. There has been a rapid turnover in senior registrars in the past two years. The present shortfall of fully trained senior registrars is not restricted to paediatric cardiology: some recent posts have attracted no more than two applicants, and two recent appointees to consultant posts in district general hospitals were not by then accreditable and must complete their accreditation in post. This is not a desirable trend. Moreover, from 1996 we face an appreciable increase in the number of consultants retiring. The numbers of senior registrars should therefore increase to take account of these trends, but the increase will be attenuated if senior registrar posts are to be equated with specialty training 2 which lasts for only three years since the multiplier (see 4.1) becomes three instead of four. We expect that the need for more senior registrar posts on the one hand but the quicker throughput on the other will come close to balancing out. We do not underestimate the importance of this calculation, because the change could affect 12 or 13 posts. The new pattern of training cannot be fully in place until 1996 at the very earliest, and our projected 5% growth rate does suggest that the figures are likely to match fairly closely. The position will be reviewed frequently by ourselves and with the Joint Planning and Advisory Committee.

Numbers of cardiovascular physicians in England and Wales in 1980–89.



- 5 **Registrar posts within England and Wales**
- 5.1 If the SAC proposals are accepted—as they have been in principle by the Joint Committee for Higher Medical Training—then protection of posts for specialty training 1 is implied and indeed becomes mandatory because the two 3 year specialty training periods must be closely linked.
- 5.2 The numbers should be the same as the numbers in specialty training 2 (senior registrars) plus an allowance for wastage. Some individuals will spend only two years in specialty training 2 but others wishing to pursue a career as interventionalists may spend four years. For planning purposes we believe that three years can be taken as the norm.
- 5.3 Specialties vary in their opinions on wastage at registrar level. We have seen estimates ranging from 0% to 25%. We have no hard data for cardiology. We are aware that training in cardiology is perceived as being valuable for trainees in the pharmaceutical industry, and another source of wastage comes from the many who find the specialty too demanding. We believe our figure for wastage should be set at 15%, with acknowledgement this is only a “best guess”.
- 5.4 The numbers of protected posts for specialty training 1 should therefore be:
- $$56 \times 115/100 = 64$$
- 5.5 The posts in specialty training 1 (“registrar”) should be inspected by the SAC to ensure that the structure of the training meets the demands that will be expected both in the United Kingdom and in Europe.
- 5.6 Our last survey of registrars (cardiology, cardiology plus general medicine, general medicine plus cardiology, research orientated towards cardiology) was carried out in 1987. The total numbers identified were 212 but the numbers were not verified.
- 5.7 Two points must be emphasised, however. Firstly, many of these individuals were not expecting to make a career in cardiology, and some who did had no realistic prospects of doing so. Secondly, the structure of grades identified in this survey bears little relation to the grade we have called specialty training 1 which will be part of a structured professional training programme.

1 Chamberlain D, Bailey L, Sowton E, Ballantyne D, Boyle D McC, Oliver M. Staffing in cardiology in the United Kingdom 1988: fifth biennial survey. *Br Heart J* 1989; 62:482-7.

2 Provision of services for the diagnosis and treatment of heart disease in England and Wales. Third Report of a Joint Cardiology Committee. Royal College of Physicians of London and The Royal College of Surgeons of England. *Br Heart J* 1985;53:477-82.

3 Cardiology in the district hospital. Report of a working group of the British Cardiac Society. *Br Heart J* 1987; 58:537-46.

NOTICES

British Cardiac Society

The Annual General Meeting will take place at the English Riviera Centre, Torquay on 22 to 25 May 1990. The closing date for receipt of abstracts was 19 January 1990.

Cardiac ultrasound

The Fifth Bristol Cardiac Ultrasound Course will be held at the Bristol General Hospital on 17 and 18 July 1990 (cardiac imaging—M mode and 2D) and 19 and 20 July 1990 (Doppler echocardiography—including colour flow). Further details from Dr Peter Wilde, Department of Radiodiagnosis, Bristol Royal Infirmary, Bristol BS2 8HW. Telephone (0272) 230000, Ext 2690.

Computers in cardiology

The Seventeenth International Conference on Computers in Cardiology will take place in Chicago on 23 to 26 September 1990. Inquiries to Dr Robert Arzbaecher, Computers in Cardiology, 10 West 32nd Street, Chicago, IL 60616-3793, USA.

Multiple risk factors in cardiovascular disease

An International Symposium on Multiple Risk Factors in Cardiovascular Disease will take place in Washington, DC on 10 to 12 December 1990. Further information from the Organising Secretariat: c/o Dr Marjorie G Horning, Baylor College of Medicine, One Baylor Plaza, Houston, Texas 77030, USA, or, for Europe, Fondazione Giovanni Lorenzini, Via Monte Napoleone, 23-20121 Milan, Italy.

Journées Européennes de Cardiologie

Premières Journées Européennes de la Société Française de Cardiologie dans Paris sur 18 et 19 Janvier 1991. Information: Société Française de Cardiologie, 15 rue de Madrid, 75008 Paris, France. Registration: Albine Conseil, 16 boulevard du Parc, 92200 Neuilly sur Seine, France.